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Introduction.

The vast alluvial lowland commonly known under the name of *El Gran Chaco*, is situated in the heart of South America, being bounded in the east by the rivers Paraguay and Paraná, in the west by the eastern cordilleras of the Bolivian Andes, and in the north and south approximately by latitudes 20° and 30° South respectively. Politically this territory is divided between the republics Argentine, Paraguay, and Bolivia, but the boundaries between Paraguay and Bolivia have long been uncertain owing to the fact that the interior parts of the Chaco are still very little known and practically no-man's land. In fact, northern Chaco has up till now remained a white spot on the map of South America. The very name of Chaco has been much disputed, but this question may now be regarded as definitely settled. Chaco is a Spanish form of the Quichua name *chacu*, 'hunting', 'chase'. The word has reference to the great hunting expeditions which, as we know, were annually arranged by the Incas, and on which thousands of Indians were employed as drivers. The name *chacu* was later applied to the Indians who devoted themselves to this kind of chase, as well as to the tracts where these hunts took place.[1]) The Incas, of course, only knew a small part of the immense territory which is now called Chaco, more strictly speaking the forest-clad slopes of the eastern cordilleras as well as the adjacent plains, regions which formerly were and in parts still are extremely rich in all kinds of game. The interior regions, particularly east of Pilcomayo, inhabited by savage Indians, were unknown to the Incas and were not explored until our own days.

The climate in the Gran Chaco is on the whole subtropical, but subject to great variations, a fact that accounts for the different character of the vegetation in different parts of the country. In the west, where

[1]) See Enrique de Gandia, *Historia del Gran Chaco*. Madrid, 1930, pp. 7 sqq.

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the annual rainfall is more abundant and the temperature more equable, we meet with a luxuriant vegetation and almost impenetrable virgin forests. When we pass eastwards this picture gradually changes. Open grass-covered plains dotted with fan palms (*Copernicia cerifera*), which in some places form real palm-groves, are varied by patches of arid deserts with lonely cactuses or with patches of forest, mostly composed of small and scrubby trees which sometimes seem almost impassable by man or beast. Occasionally, however, large forest trees are found. Among these the *Guayacan* (*Caesalpina melanocarpa*), the *Quebracho* (*Quebrachia Lorentzii*), and the *Palo santo* or holywood are well known as fine timber trees. Their iron-hard wood to a certain extent compensates the Chaco Indians for the complete lack of stone in their country, their most important weapons and implements being made of these kinds of wood. It is a remarkable fact that in the pampas regions of the Chaco not the smallest stone can be found within an area of hundreds of square miles; the soil is entirely composed of fine-grained silt, with occasional layers of sand.

From an alimental point of view the most common and at the same time most valuable tree is the *algaroba* (*Prosopis alba or juliflora*), which forms real forests. Its pod-like fruit, which is extremely rich in sugar, is very nourishing and in fact feeds thousands of Indians for two or three months of the year. Of this fruit moreover the natives brew their favourite national drink, the algaroba beer, which plays an important part in their social and religious life. Other wild trees of great nutritive value are the *tusca* (*Acacia aroma*), the *chañar* (*Gourliea decortitans*), and the *mistol* (*Sisyphus mistol*), from which also intoxicating fermented drinks are prepared.

A plant which is quite common in the thickets of the Chaco and which is very useful, although extremely troublesome to the traveller because of its long thorns, is the *caraguatá* plant (*Bromelia serra*). It is from the fibres of this plant that the Indians twine the thread of which they make their shirts, bags, nets, etc. Its edible root-stocks are also useful.

It is the scarcity of rain that stamps the vegetation in the interior of the Chaco, just as it exerts its influence upon the culture of the natives. Thus agriculture can be practised only in a very limited degree. A real rainy season scarcely exists, but the period when rainfalls are more common than at other times of the year — from October to March — is called »summer» in the Chaco. Owing to prolonged rains in the moun-

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●132 tains the rivers may at that time rise to a height of twenty feet above the normal, and in low-lying tracts inundations are by no means uncommon. The temperature may then frequently rise to 110° F. in the shade. The forests abound in algaroba and other wild fruits, and the natives devote themselves to the cultivation of their modest fields of pumpkin, water melon, manioc, and maize. But at the end of March a remarkable change is noticeable. The thunderstorms accompanied by showers of rain, which during the summer time are comparatively frequent, cease from then on, and a season of drought which lasts for several months sets in. Whereas in the summer the hot north wind is prevalent, the cold south wind is the rule during the dry season, and is one of the causes of the remarkable fall of temperature then taking place. In the early hours of the morning it may fall below freezing point, and the traveller who has spent the night in his open tent may, to his astonishment, find the water pools covered with a thin layer of ice. But about noon the temperature may again, if the sun shines, rise to an almost summerlike warmth.

136 Animal life in the Chaco is much the same as in tropical South America, but shows certain characteristic forms. In the pampas regions large flocks of the South American ostrich (*Rhea americana*) are frequently seen, rapidly taking flight at the approach of a party of equestrians. The Indians eagerly hunt this shy bird both on account of its flesh, which is highly appreciated as food, and its feathers which are used as ornaments on festival occasions. On the edge of forests large troops of peccaries (*Dicotyles labiatus* and *D. torquatus*) as well as deer are frequently encountered, whereas marshy regions are haunted by the tapir (*Tapirus americanus*). Occasionally a specimen of the great anteater (*Myrmecophaga jubata*) is seen: including the long, bushy tail this peculiar animal measures about seven feet; the snout is very long and pointed and on the back it has a bristly mane; the forefeet are strongly developed and provided with terrible claws with which the animal tears up the belly of its assailant. Next to the jaguar, the anteater is the most dangerous animal in the Chaco, and the Indians allege that it is a match even for this beast.

Of the carnivora the jaguar is the most important; it is fairly common especially in the cattle districts and attains here a larger size than in any other part of South America. The animal is rarely seen, but its tracks are often encountered on the path of the forest, and at night its howling is often heard as it roams about looking for prey. The traveller

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755 535 they approached the sick woman and passed the poncho over her head; next they ran to the exit and shook it. They repeated this maneuver several times, then completely enveloped the woman in the poncho, and a medicine man began to rub her through the cloth. Everyone was singing but some were not dancing. After some time the poncho was taken off, carried at a running pace to the exit, and thrown outside. The dance was resumed; an assistant threw some water on the ground, and the chief medicine man then stopped the dance again. He sat next to the sick woman, covering himself completely with a large black blanket, and began to speak with the illness; during this time the man who was watering the ground carried up a bucket of water and, with the help of a medicine man, washed the face, head, and body of the sick woman, who was turned with her feet toward the passage made in the crossbars, and a path was traced with water from her feet to the passage. The chief medicine man got up and the dance was resumed with renewed [302] ardor. During this dance the assistant moistened the shoulders of the male dancers, while an old man painted the faces of the women red, giving them two circles on the cheek bones and a streak along the nose. At the same time one medicine man blew on the sick woman and another covered her face with a red cloth. At the end of a certain time the sick woman lay down, the dance continued, taking on a threatening character, and then suddenly the people appeared satisfied, having undoubtedly obtained a momentary success. The ceremony stopped and was resumed after an hour.

Note

[64] [32] According to the medicine men with whom I had a chance to talk about these two sick women, they were suffering from "sickness in the chest," /217/ easily explicable by a sharp atmospheric drop of almost 25° in 24 hours.